BioMax Environmental
Environmental Consulting and Industrial Hygiene Services

February 21st, 2008

Mr. Doug Button
Deputy Director
Real Estate Services Division
707 Third Street - 8th Floor
West Sacramento, CA 95605

Mitigation Procedures for Floor 23 North and West
Department of General Services Board of Equalization Building
450 N. Street
Sacramento, California

Dear Mr. Button,

As per your request, BioMax Environmental, LLC (BioMax) is pleased to provide you with the following recommendations pertaining to the microbial abatement and inspection activity procedures proposed for the 23rd Floor North and West side of 450 N. Street, Sacramento, California (subject building). BioMax understands that these procedures have been requested at the specific direction of the Department of General Services, in an effort to establish the necessary preliminary criteria under which the forthcoming microbial mitigative and wall cavity inspection efforts will be planned and performed within the areas noted below. At this time, it is noted that the current tenant (Board of Equalization) staff have been vacated from the 23rd floor and is anticipated to remain as such until the floor has been deemed acceptable for reconstruction and forthcoming reoccupancy. The applicable areas pertaining to these site-specific procedures are identified as the offices and administrative areas located along the western and northern perimeter sides of the subject building running from Rooms 2309(CB) located in the southwestern corner office, to Room 2331(CB) and also includes 2310, 2311, 2312(CB), 2313(CB), 2314, 1315, 2316(CB), 2317, 2321, 2322, 2323(CB), 2325, 2326(CB), 2327, 2328, 2329, 2330(CB). Areas with interior mini coffee bars are noted with a "CB" designation next to the room number. A detailed floor plan site map will be maintained by the site mitigation contractor, JLS, and will be available for review by DGS and BOE representatives within the construction site offices located on the 23rd floor.

As such, these recommended mitigation procedures are intended as a means of setting preliminary performance criteria goals during the onset of this mitigative effort. Pursuant to an ongoing agreement between the BOE and DGS, these recommended procedures will be reviewed, commented upon and approved by BOE's representative Industrial Hygienist consultant, Hygientech, prior to implementation. Any revisions to these recommended procedures and/or significant deviations performed by the selected mitigation contractor with the

procedures noted herein shall only be performed under the review, guidance, and approval of the Project CIH (noted below) and DGS with appropriate notification provided to BOE representatives.

These procedures have been prepared by Mr. Michael A. Polkabla, CIH, REA, (Project CIH) of BioMax in accordance with currently recognized microbial assessment and sampling guideline procedures. Mr. Polkabla has been certified in the Comprehensive Practice of Industrial Hygiene by the American Board of Industrial Hygiene and holds the right to the designation "Certified Industrial Hygienist" (CIH) under certification number CP 7104. Mr. Polkabla is also certified by the California Environmental Protection Agency (Cal/EPA) as a Class I Registered Environmental Assessor (REA) under Cal/EPA certification number 05011. Hence, BioMax proposes the following mitigative procedures for consideration, review, and appropriate implementation at the direction and approval of the Department of General Services:

1. **Establishment of Containment System** - Prior to the performance of microbial mitigative measures, BioMax recommends that the selected microbial abatement contractor design and erect critical containment barriers which isolates the affected interior areas located within the exterior perimeter wall areas of the western and northern legs of the subject building as previously identified. The selected contractor must utilize workers who are specifically trained in the field of microbial abatement procedures and containment techniques as well as maintain demonstrated proficiency in the establishment and use of appropriate barriers, personal protective equipment, abatement techniques and methods in the removal and decontamination of microbial affected and impacted materials. Critical containment barriers shall be established at all physical entries leading to the noted 23rd floor containment areas. Isolation of the elevator lobby areas (excluding the freight elevator) shall continue to be maintained through the use of a critical barrier systems which precludes access into (and from) such elevator systems. As an additional precautionary measure, HEPA filtered air scrubbing equipment shall be established and maintained within the elevator lobby area for the duration of the forthcoming microbial mitigative effort.

2. **Delineation of Containment System** - Due to the presence of suspected moisture damage within the exterior perimeter wall of the north and western segments of the subject area, the selected contractor shall be directed to install a fully enclosed negative pressure environmental containment system designed to isolate the potentially damaged and affected materials. This containment system shall be established at approximately six (6) feet from the exterior perimeter wall and will remain in place and operational during all forthcoming destructive inspection and/or testing, physical removal, and subsequent treatment of any identified impacted materials. These containment systems shall be designed for the specific purposes of containing and controlling possible fugitive emissions of airborne fungal spore contaminants and particulates generated during all forthcoming mitigative activities within the identified containment systems. Once established, all containment systems shall remain in place and fully functional on a 7 day/24 hour basis until the noted areas of concern have been appropriately mitigated, re-inspected, tested, and ultimately deemed acceptable for reconstruction and forthcoming

reoccupancy as noted below. Based on our current understanding, preliminary containment barriers shall be generally established approximately six (6) feet from and along the interior perimeter wall which includes multiple office and open interior space areas and as indicated. Specific locations and delineations of exact containment systems and barriers shall be based upon site specific physical requirements within the working spaces and will be determined on an area-specific and material specific basis. Current area site maps shall be maintained by JLS and available for review within the site construction offices upon specific request. BioMax is also prepared to provide your selected mitigation contractor with additional and ongoing consultation, information, and detailed direction pertaining to the establishment, location, and maintenance of appropriate critical containment barriers, as necessary.

3. **Ceiling Precluded From Containment System** - A physical containment systems shall be erected within the designated work zones from floor to (and excluding from containment) ceiling tile level materials. As such, the containment system will include the establishment of a functional plastic barrier oriented along the lower (workplace) side of the current acoustic ceiling tile materials thus isolating the ceiling plenum from the active working areas within the established containment. Hence, the containment system shall be designed and maintained in a manner wherein the existing work area is isolated by a sealed critical barrier system from the existing ceiling tile and ceiling plenum spaces.

4. **Containment Construction** - All critical containment systems shall be constructed of plastic and/or otherwise airtight materials so as to create an adequate negative pressure system within the noted areas of concern. Negative air pressure shall be maintained within all critical areas (for the duration of this scope of work) utilizing High Efficiency Particulate Aerosol (HEPA) filtered "negative air machine" equipment vented to the outside environment whenever practicable. An adequate supply of filtered intake air shall also be established to allow an adequate supply of "clean" HEPA filtered make-up air into the critical containment wherever practicable. As a performance criteria goal, negative air pressure will be established and maintained within the established containment system areas at a performance goal level of -0.02 inches of water pressure on a 24 hour basis for the duration of mitigative activities, whenever possible and feasible. At the direction of DGS, all inspection and containment system assessment activities may also include additional third-party professional environmental consultant review, as necessary. Following the satisfactory implementation and review of such containment systems, and upon DGS approval, microbial mitigative measures may proceed in accordance with project specific mitigative procedures established herein. Wherever possible, clear translucent plastic observation windows shall also be placed on the critical containment barrier system within direct sight of the affected work areas for the purposes of facilitating non-entry inspection during the performance of prescribed mitigative measures

5. **Posting and Containment Pressure Monitoring** - During the performance the forthcoming mitigative measures, appropriate signage and warnings must be posted within controlled areas and particularly on the exterior of containment entrances to record

entry access and to preclude uninformed access from unauthorized personnel. For these purposes, a sign-in log shall also be maintained at the designated entrance of the 23rd floor immediately outside the freight elevator (and any accessible stairways) and utilized by all personnel who enter the controlled areas anywhere on the 23rd floor. Data logging monitoring equipment employed to record pressure differentials on a 24-hour basis shall be used for the duration of this project where functional critical barriers are established and in use. Such pressure monitoring devices shall utilize paper strip chart records so as to allow routine and regular inspection of pressure readings by DGS project management personnel. The mitigation contractor shall maintain these chart records and will provide a weekly written summary of continuous monitoring levels for the duration of the project.

6. **Worker Entry Chambers** - A series of similar plastic and/or otherwise impermeable zippered entry chambers shall be erected at the entrance of each containment system area for the purpose of establishing controlled worker entrance/exit points. Controlled areas shall also be established outside of the working area so as to provide workers with clean personal protective equipment (PPE) storage, donning, and contamination reduction areas. HEPA filtered vacuum equipment capable of the effective removal of particulate contaminants from tools and personal protective equipment shall be placed and maintained within each of the zippered entry/exit chambers located closest to the designated working areas.

7. **HVAC, Penetrations, and Fire Suppression Systems** - All Heating Ventilation and Air Conditioning (HVAC) supply vents, ceiling penetrations, and non critical ceiling or wall mounted recessed lighting/ fan penetrations within the containment systems shall be deactivated and covered within similar plastic barrier systems wherever possible. All appropriate wall, floor, and ceiling penetrations identified present within the containment systems shall be sealed and/or otherwise rendered airtight and inoperable so as to minimize unfiltered particulate intrusion into and/or out of the established containment systems. Any smoke detectors and/or fire suppression systems shall NOT be covered nor rendered inoperable within the subject building due to existing building code requirements, unless specifically authorized to do so under the direction and supervision of DGS.

8. **Containment Inspection and Verification** - Upon contractor completion of the containment barrier system and maintenance of acceptable negative pressure for a minimum of 24 continuous hours, a review of such systems shall be performed by the Project Certified Industrial Hygienist (CIH) whereby a detailed account of all established barriers and containment systems shall be thoroughly assessed and verified. At the direction of DGS, this inspection and containment assessment activity may also include other third-party professional environmental consultant review and comment, as necessary. Following the satisfactory review of such containment systems, and upon DGS approval, microbial mitigative measures may proceed in accordance with project specific mitigative procedures outlined below.

9. **Establishment of Air Scrubbing and Negative Air Machines** - Supplementing the existing negative air machines (designed to establish and maintain negative air pressure within the containment systems) a series of HEPA filtered air scrubbing machines shall also be located within of each of the affected work areas during all forthcoming mitigative activities. Such air scrubbing machines shall be oriented within active working areas and portable in their design so as to be readily relocated to additional work areas as necessary. Supplemental air scrubbing machines may also be placed within areas outside of the working and/or containment areas as an additional precautionary measure as necessary at the direction of the Project CIH.

10. **Cleaning and Removal of Remaining Office Furniture** – Prior to the initial phases of the mitigative effort, BioMax recommends that all interior office furniture, wall divider structures, desks, etc. currently present within the areas designated for the containment systems be disassembled and removed. All such furnishings shall be temporarily removed and placed into a designated interior controlled "clean" room established during all forthcoming destructive inspection within the noted containment areas. It is anticipated that these materials shall be stored on the 23rd floor in a designated area located within or adjacent-to the established containment system until all identified wallboard areas and wall cavities have been appropriately removed, inspected, and/or mitigated as noted below. All window coverings shall be similarly removed prior to containment and stored for future re-installation and reuse.

11. **Carpet Removal** - Following the physical removal and relocation of all interior office furnishings from the containment areas, the mitigation contractor shall remove all carpeting and carpet pad underlayment (carpeting) within the containment systems utilizing appropriate dust suppression and material extraction methods. All carpeting shall be similarly sealed in manageable sized units so as to effectively remove the materials while precluding fugitive particulate emissions. Carpet and flooring materials will also be destroyed and/or otherwise rendered unsalvageable prior to disposal and waste documentation. Following all flooring material removal, a reassessment of floor penetrations shall be performed by the contractor to identify and seal any newly identified significant floor penetrations and associated areas of potential airflow intrusion/egress through the floor structures.

12. **Curtain Wallboard Removal** - BioMax specifically recommends that all perimeter wallboard material and wallboard covering systems be removed for inspection of the interior and adjacent wall cavities/underlayment from floor to ceiling level wherever possible and floor to lower curtain wall window level in areas containing such architectural detail. The extent of preliminary wallboard material shall include physical removal of exterior walls within rooms 2309 through 2332 located along the western and northern portions of the subject building as noted. Interior pillar chase features located on the perimeter wall may not require floor to ceiling removal but shall, at minimum, be removed from floor to 6 inches above window sill level (approximately 3 feet afl) to allow appropriate visual inspection of underlayment materials. Following such removal,

a plastic barrier shall be placed within the noted pillar chase features so as to preclude the migration of unfiltered make-up air through these noted features.

13. **Mini Coffee Bar and Sink Containment/Removal** – All areas noted previously with (CB) designations have been identified as containing mini coffee bar and/or sink locations. As a means to assure complete and accurate investigation of visible moisture leaking sources (visibly present within each of the noted units) while under containment, BioMax specifically recommends that all physically damaged and stained sink cabinets be removed for appropriate inspection of the interior, underlayment, and adjacent cavities associated with the noted built-in sink and cabinet structures. The extent of preliminary cabinet material removal shall include the physical removal of cabinet base horizontal and vertical cabinet backing materials within each affected cabinet, thus exposing (for adequate inspection and potential cleaning) all potentially affected underlayment materials while under appropriate containment controls. As such, all containment, inspection, and mitigative measures associated with the identified CB areas shall be performed in accordance with procedural methods specified within BioMax's Mitigation Procedures Supplement, dated February 20th, 2008 and the specific requirements provided herein.

14. **Other Potentially Affected Areas Encountered** - Any interior wall wallboard and flooring materials also identified as containing moisture staining and/or mold-like indicators shall similarly be removed, wherever feasible, to the extent of any visible staining, and at a minimum, an additional two (2) linear feet wherever practicable. Removal of potentially moisture impacted and mold damaged materials may also employ the use of appropriate item-specific containment methods and systems (such as sealed plastic glove-bag containment systems, or equivalent) applicable to the materials being removed at the direction of the Project CIH, as necessary. As previously noted, BioMax currently anticipates that all perimeter curtain wall board materials and insulation shall be removed for the appropriate subsequent interior inspection of the physical condition of all exterior wall cavities and underlayment materials along the curtain wall details within the identified affected areas. As part of this procedure, it is essential that any additional underlayment materials exhibiting visible signs of moisture staining shall also be identified, decontaminated, and/or removed as noted below. In the event that additional moisture/mold damaged materials are encountered, the Project CIH shall be contacted for review of such findings and to obtain additional material specific direction.

15. **Decontamination and Treatment** - All remaining moisture/mold affected porous and non-porous building materials deemed infeasible for removal and/or disposal (due to physical constraints and/or structural integrity concerns) shall be inspected and receive a series of decontamination treatment measures designed to minimize and control the presence of microbial related substances. Decontamination methods employed shall, at a minimum, include treatment of all identified surfaces with a series of thorough mildicide solution (such as 20 parts water to 1 part chlorine soln. or similar commercial grade mildicide products) used in accordance with manufacturer's published information and guidelines. Depending on specific level of visible staining/deposition, wet treatment

applications may be followed by a series of thorough HEPA filtered vacuuming procedures using power sanding and/or bristle brush agitation. The duration and frequency of mildicide and HEPA sanding/brushing applications employed may vary depending on condition of local material contamination but shall be sufficient in removing all particulate debris and decontaminating all visible surface staining to levels deemed by the Project CIH to be consistent with representative background levels.

16. **Additional Mitigative Measures** - Reasonable additional mitigative measures and controls may be required, as necessary, upon discovery of additional contaminated materials as well as review of additional site inspection findings and observations performed at regular and periodic intervals during this scope of work. BioMax would certainly be happy to provide regular and ongoing consultation with the selected mitigation contractor as well as with BOE's site industrial hygiene consultant during the performance of these activities as needed and upon request. Any significant findings pertaining to additional sampling assessment activities performed by BOE's industrial hygiene consultant shall also be reviewed by the Project CIH wherein appropriate action and/or revision to these recommended protocols will be implemented through verbal and written amendments.

17. **Inspection of Site Activities** - BioMax currently anticipates that a series of scheduled and unscheduled site visit/inspections shall be accomplished during the contractor's performance of active mitigative procedures and shall be performed by the Project CIH, and/or site representative so as to verify acceptable compliance with these recommended protocols and procedures. Significant findings and/or recommendations for revision to current mitigative protocols shall include immediate verbal instructions and will be documented within in written field records, as necessary.

18. **Post Mitigation Clearance Inspection and Assessment** - Upon completion of mitigation efforts performed by the selected microbial abatement contractor, BioMax recommends the performance of a detailed visual inspection conducted the Project CIH to verify the absence of significant residual mold related staining and/or moisture indicators within the remaining physical structures and to visually assess that all prescribed mitigative efforts and measures have been appropriately achieved within the noted containment area. Additional "punch-list" action items may by provided to the contractor following the performance of this preliminary site clearance inspection as deemed necessary. Once completed, it is recommended that the Project CIH collect and review the findings of a series of airborne microbial "clearance" samples as a means to verify that all affected interior areas have been appropriately decontaminated to "acceptable" airborne levels and that the affected areas within the subject building are verified as "cleared" for reconstruction, forthcoming reoccupancy, and reuse. It is expected that the specific clearance criteria parameters utilized during this phase of assessment shall be developed by the Project CIH and summarized under a separate clearance protocol document. As part of this post mitigation "clearance" verification process, the provision of appropriate access for parallel inspection and review of sampling data and current site conditions shall be offered to BOE and their consultants. It is currently anticipated that a

reasonable time period shall be afforded to BOE and their industrial hygiene consultants for their appropriate inspection, review of analytical findings, and performance of any supplemental sampling activities (at BOE's option) prior to initiation of reconstruction activities. All contractors including BOE staff, HTI inspectors, etc. shall only be provided access into containment areas under the direct supervision and attendance of JLS and/or BioMax representatives

19. **Encapsulation** – BOE's consultant, Hygientech, has previously asked whether ....*an "encapsulant of some type (will) be used post final visual inspection but prior to clearance sampling?"* BioMax's position is that it is fundamental to these procedures that NO encapsulant shall be used prior to the performance of a post mitigation clearance inspection and/or sampling assessment of the impacted area. However, such consideration may be given to this option based on site and material-specific conditions, as necessary. Any such consideration shall only be considered, however, in cooperation and consultation with BOE's industrial hygiene representatives and based on the thorough review of all current post mitigative sampling data.

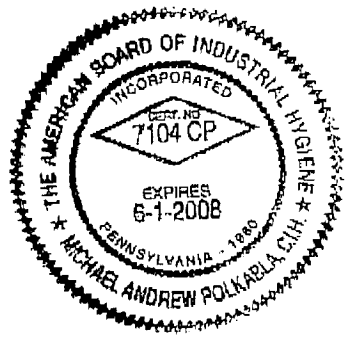
20. **Building Leak Testing Verification** - Following the performance of these mitigative measures and achievement of acceptable post mitigation clearance criteria, the designated site reconstruction contractor is strongly encouraged to verify that repairs to any faulty and/or deficient architectural detail design, building penetration, and/or building envelop sealing systems have been appropriately inspected, reconfigured, replaced/repaired, and function tested prior to the reconstruction of the affected interior structures and cavities. Certainly, the repair/replacement and/or establishment of any such additional engineering controls (as recommended through additional professional consultation) must be performed and implemented in accordance with applicable building standards, building codes, and ordinances, as necessary.

21. **Reconstruction Activities** - Upon completion, reconstruction of interior structural materials should only be undertaken utilizing visibly clean (hand selected) construction grade materials in accordance with applicable building codes and requirements. The reconstruction contractor should be mandated to only select materials which are obtained from reputable commercial sources and which are believed and visually verified to be free from elevated microbial contamination and/or elevated moisture content. New building materials, which are notably moist and/or visibly stained, should NOT be used during the reconstruction of the subject structure. BioMax also recommends that efforts be made by the reconstruction contractor to minimize the generation and migration of construction related dust and associated airborne particulates during all reconstruction phases in accordance with standard construction industry practices.

BioMax believes that the proposed recommended procedures outlined above are consistent with standard industry microbial mitigative practices and prudent industrial hygiene hazard control methods. Please do not hesitate to contact our offices directly at (510) 724-3100 if you have any additional questions, comments about these recommendations, or require further assistance regarding this important matter.

Sincerely,

Michael A. Polkabla, CIH, REA
Vice President, Principal



LIMITATIONS

Please note that the professional opinions presented in this review are intended for the sole use of the California State Department of General Services (DGS) and their designated beneficiaries. No other party should rely on the information contained herein without the prior written consent of BioMax Environmental and DGS. The professional opinions provided herein are based on BioMax's review and understanding of current site information and observed site conditions present within the areas inspected at the time these services were performed. Professional recommendations provided as part of this limited scope of work are intended for client consideration only and are not intended as a professional or regulatory mandate. Implementation of any of the above measures or recommendations does not, in any way, warrant the day-to-day health and/or safety of building occupants, residents, site workers, nor regulatory or building code compliance status during normal and changing environmental conditions. As microbial contamination, by nature, may change over time due to additional moisture intrusion, favorable growth conditions, and changing environments, the findings of this report are subject to change in the event that such conditions and/or environments arise. Also, the professional opinions expressed herein are subject to revision in the event that new or previously undiscovered information is obtained, presented, or identified.

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